

AMENDMENTS TO THE CLAIMS

A detailed listing of all claims that are, or were, in the present application, irrespective of whether the claim(s) remains under examination in the application are presented below. The claims are presented in ascending order and each includes one status identifier.

41. (Previously presented) An autostereoscopic-projection arrangement, comprising:  
a first projector, and  
a first filter array having a multitude of filter elements, in which  
the projector projects bits of partial information from views of a scene or object onto a projection screen, where the bits of partial information are rendered on image rendering elements and, having passed the filter array, are made visible to an observer, and in which  
the image rendering elements correspond with correlated filter elements, as regards the propagation direction of the bits of partial information, in such a way that the observer will see predominantly bits of partial information from a first selection of views with a first eye and predominantly bits of partial information from a second selection of views with a second eye, so that the observer perceives a spatial impression.

42. (Previously presented) The autostereoscopic projection arrangement according to Claim 41, further comprising:  
a second projector,  
a second filter array, in which the first filter array is arranged between the projection screen and the projectors, and the second filter array is arranged in front of the projection screen and in which

the first and second filter arrays have wavelength filter elements arranged in columns and rows that are transparent to light of different wavelengths or different wavelength ranges and in which

the projectors project bits of partial information from views of a scene or object through at least one of the first and second filter arrays and onto the projection screen, so that bits of partial information of the views are made optically visible on the projection screen in combination or mix determined by a geometry of the arrangement, and the projection screen is divided into a grid of image rendering elements which are arranged in columns and rows and, depending on the embodiment of the filter arrays and the projectors, radiate light of particular wavelengths or wavelength ranges, with each image rendering element rendering bits of partial information of at least one of the views, and in which

the second filter array arranged in front of the projection screen defines propagation directions for the light radiated by the projection screen toward the observer, in which any individual image rendering element corresponds with several allocated wavelength filters of the filter array, or one wavelength filter of the filter array corresponds with several allocated image rendering elements, in such a way that a straight line connecting a first centroid of the cross-section area of a visible portion of the image rendering element and a second centroid of the cross-section area of a visible portion of the wavelength filter represents one propagation direction, so that, from every viewing position, the observer will see predominantly bits of partial information of a first selection of views with the first eye, and predominantly bits of partial information of a second selection of views with the second eye, so that the observer perceives a spatial impression from a multitude of viewing positions.

43. (Previously presented) The autostereoscopic projection arrangement according to Claim 42, in which each of the filter arrays contains wavelength filter elements arranged in a specific grid assigned to it, consisting of rows and columns, which are arranged on the filter array depending on their transmission wavelength or their transmission wavelength range according to the following function:

$$b = p_A - d_{Apq} \cdot q_A - n_{Am} \cdot \text{IntegerPart} \left[ \frac{p_A - d_{Apq} \cdot q_A - 1}{n_{Am}} \right], \text{ wherein}$$

( $p_A=p$ ) is the index of a wavelength filter in a row of the respective array,

( $q_A=q$ ) is the index of a wavelength filter in a column of the respective array ( $F_A$ ),

( $b$ ) is an integer that defines one of the specified transmission wavelengths or wavelength ranges for a wavelength filter of the filter array in the position ( $p_A, q_A$ ), and may have values between 1 and  $b_{Amax}$ ,

( $n_{Am}$ ) is an integer greater than zero that corresponds to the total number ( $n$ ) of the views ( $A_k$ ) displayed by the projectors,

( $d_{Apq}$ ) is a selectable mask coefficient matrix for varying the arrangement of the wavelength filters on the respective array, and

*IntegerPart* is a function for generating the greatest integer that does not exceed the argument put in square brackets.

44. (Previously presented) The autostereoscopic projection arrangement according to Claim 42, in which

at least two of the filter arrays cannot be made completely congruent by horizontal and/or vertical linear scaling of their structures, and

the filter arrays are arranged at a distance ( $z_A$ ) in front or behind the projection screen (in viewing direction), respectively, in which ( $z_A$ ) may adopt values in the range of  $-60 \text{ mm} \leq (z_A) \leq 60 \text{ mm}$ , with a negative value of ( $z_A$ ) meaning arrangement in front of the projection screen and a positive value of ( $z_A$ ) meaning arrangement behind the projection screen at the respective distance given by the absolute amount of ( $z_A$ ).

45. (Previously presented) The autostereoscopic projection arrangement according to Claim 42, in which at least one filter element of at least one of the filter arrays comprises a lens or a prism.

46. (Previously presented) The autostereoscopic projection arrangement according to Claim 45, in which the lens comprises a cylindrical lens.

47. (Previously presented) The autostereoscopic projection arrangement according to Claim 45 in which the lenses or prisms are arranged in columns only or in rows only.

48. (Previously presented) The autostereoscopic projection arrangement according to Claim 42 in which the projection screen is translucent.

49. (Previously presented) The autostereoscopic projection arrangement according to Claim 42 in which at least one of the projectors projects a combination image composed of bits of partial information of at least two views ( $A_k$ ), in which preferably two projectors each project a combination image composed of bits of partial information of at least two views ( $A_k$ ) and the image combination structure of the views ( $A_k$ ) selected differs for the said two projectors.

50. (Previously presented) The autostereoscopic projection arrangement according to Claim 41,

further comprising

a second projector,

in which the first filter array is arranged between the projection screen and the projectors,  
and

in which the projection screen is suitable for front projection; and

in which the filter array has wavelength filter elements that are arranged in columns and rows, are transparent to light of different wavelengths or different wavelength ranges, and absorb the light that is not transmitted at least partially, and in which

the projectors project bits of partial information from views of a scene or object through at least one of the first and second filter arrays and onto the projection screen, so that bits of partial information of the views are made optically visible on the projection screen in combination or mix determined by a geometry of the arrangement, and the projection screen is divided into a grid of image rendering elements which are arranged in columns and rows and, depending on the embodiment of the filter arrays and the projectors, radiate light of particular

wavelengths or wavelength ranges, with each image rendering element rendering bits of partial information of at least one of the views, and in which

the first filter array defines propagation directions for the light radiated by the projection screen toward the observer, in which any individual image rendering element corresponds with several allocated wavelength filters of the filter array, or one wavelength filter of the filter array corresponds with several allocated image rendering elements, in such a way that a straight line connecting a first centroid of the cross-section area of a visible portion of the image rendering element and a second centroid of the cross-section area of a visible portion of the wavelength filter represents one propagation direction, so that, from every viewing position, the observer will see predominantly bits of partial information of a first selection of views with the first eye, and predominantly bits of partial information of a second selection of views with the second eye, so that the observer perceives a spatial impression from a multitude of viewing positions.

51. (Previously presented) The autostereoscopic projection arrangement according to Claim 50, in which the filter array comprises wavelength filter elements ( $\beta_{pq}$ ) in a grid of rows (q) and columns (p), which, depending on their transmission wavelength/their transmission wavelength range ( $\lambda_b$ ) are arranged on the filter array according to the following function:

$$b = p - d_{pq} \cdot q - n_m \cdot \text{IntegerPart} \left[ \frac{p - d_{pq} \cdot q - 1}{n_m} \right], \text{ wherein}$$

(p) is the index of a wavelength filter  $\beta_{pq}$  in a row of the array,

(q) is the index of a wavelength filter  $\beta_{pq}$  in a column of the array,

(b) is an integer that defines one of the specified transmission wavelengths/wavelength ranges ( $\lambda_b$ ) for a wavelength filter ( $\beta_{pq}$ ) of the filter array in the position (p,q), and may have values between 1 and  $b_{\max}$ ,

( $n_m$ ) is an integer greater than zero that preferably corresponds to the total number (n) of the views ( $A_k$ ) displayed by the projectors,

( $d_{pq}$ ) is a selectable mask coefficient matrix for varying the arrangement of the wavelength filters on the array, and

*IntegerPart* is a function for generating the greatest integer that does not exceed the argument put in square brackets.

52. (Withdrawn) The autostereoscopic projection arrangement according to Claim 50, in which the filter array is arranged on the projector side of the projection screen at a distance (z), with (z) adopting values in the range of  $0 \text{ mm} \leq z \leq 60 \text{ mm}$ .

53. (Withdrawn) The autostereoscopic projection arrangement according to Claim 50, in which at least some of the filter elements of the filter array transmit light from selected directions of incidence only.

54. (Previously presented) The autostereoscopic projection arrangement according to Claim 41, in which:

the projection screen is suitable for front projection,

the first filter array is arranged between the projection screen and the projector,

the first filter array comprises wavelength filter elements that are arranged in columns and rows, are transparent to light of different wavelengths or different wavelength ranges, and absorb the light that is not transmitted at least partially, and in which

the projector projects bits of partial information from views of a scene or object through at least one of the first and second filter arrays and onto the projection screen, so that bits of partial information of the views are made optically visible on the projection screen in combination or mix determined by a geometry of the arrangement, and the projection screen is divided into a grid of image rendering elements which are arranged in columns and rows and, depending on the embodiment of the filter arrays and the projectors, radiate light of particular wavelengths or wavelength ranges, with each image rendering element rendering bits of partial information of at least one of the views, and in which

the first filter array defines propagation directions for the light radiated by the projection screen toward the observer, in which any individual image rendering element corresponds with several allocated wavelength filters of the filter array, or one wavelength filter of the filter array corresponds with several allocated image rendering elements, in such a way that a straight line connecting a first centroid of the cross-section area of a visible portion of the image rendering element and a second centroid of the cross-section area of a visible portion of the wavelength filter represents one propagation direction, so that, from every viewing position, the observer will see predominantly bits of partial information of a first selection of views with the first eye, and predominantly bits of partial information of a second selection of views with the second eye, so that the observer perceives a spatial impression from a multitude of viewing positions.



55. (Previously presented) The autostereoscopic projection arrangement according to Claim 41, in which:

the projection screen is a translucent projection screen, and

further comprising a second filter array, in which the first filter array is arranged between the projection screen and the projectors, and the second filter array is arranged front of the projection screen and in which

the first and second filter arrays have wavelength filter elements arranged in columns and rows that are transparent to light of different wavelengths or different wavelength ranges and in which

the projector projects bits of partial information from views of a scene or object through at least one of the first and second filter arrays and onto the projection screen, so that bits of partial information of the views are made optically visible on the projection screen in combination or mix determined by a geometry of the arrangement, and the projection screen is divided into a grid of image rendering elements which are arranged in columns and rows and, which radiate light of particular wavelengths or wavelength ranges, with each image rendering element rendering bits of partial information of at least one of the views, and in which

the second filter array, arranged in front of the projection, screen defines propagation directions for the light radiated by the projection screen toward the observer, in which any individual image rendering element corresponds with several allocated wavelength filters of the filter array, or one wavelength filter of the filter array corresponds with several allocated image rendering elements, in such a way that a straight line connecting a first centroid of the cross-section area of a visible portion of the image rendering element and a second centroid of the

cross-section area of a visible portion of the wavelength filter represents one propagation direction, so that, from every viewing position, the observer will see predominantly bits of partial information of a first selection of views with the first eye, and predominantly bits of partial information of a second selection of views with the second eye, so that the observer perceives a spatial impression from a multitude of viewing positions.

56. (Previously presented) The autostereoscopic projection arrangement according to Claim 54, in which

the projector radiates light of different wavelengths or wavelength ranges in succession, and the bits of partial information of each of the views are radiated in pairs of different wavelengths or wavelength ranges, in which

bits of partial information of  $n=3$  views ( $A_k$  with  $k=1..n$ ) are displayed, the projector is a DMD/DLP projector, and view  $A_1$  ( $k=1$ ) is displayed exclusively in red, view  $A_2$  ( $k=2$ ) exclusively in green, and view  $A_3$  ( $k=3$ ) exclusively in blue.

57. (Previously presented) The autostereoscopic projection arrangement according to Claim 55, in which

the projector radiates light of different wavelengths or wavelength ranges in succession, and the bits of partial information of each of the views are radiated in pairs of different wavelengths or wavelength ranges, in which

bits of partial information of  $n=3$  views ( $A_k$  with  $k=1..n$ ) are displayed, the projector is a DMD/DLP projector, and view  $A_1$  ( $k=1$ ) is displayed exclusively in red, view  $A_2$  ( $k=2$ ) exclusively in green, and view  $A_3$  ( $k=3$ ) exclusively in blue.

58. (Previously presented) Autostereoscopic projection arrangement according to Claim 41, in which:

the projection screen is a translucent projection screen,  
the first projector is arranged behind the projection screen,  
the first filter array is arranged in front of the projection screen,  
the first filter array has wavelength filter elements arranged in columns and rows that are transparent to light of different wavelengths or different wavelength ranges and in which

the projector projects bits of partial information from views of a scene or object through at least one of the first and second filter arrays and onto the projection screen, so that bits of partial information of the views are made optically visible on the projection screen in combination or mix determined by a geometry of the arrangement, and the projection screen is divided into a grid of image rendering elements which are arranged in columns and rows and, which radiate light of particular wavelengths or wavelength ranges, with each image rendering element rendering bits of partial information of at least one of the views, and in which

the second filter array, arranged in front of the projection screen, defines propagation directions for the light radiated by the projection screen toward the observer, in which any individual image rendering element corresponds with several allocated wavelength filters of the filter array, or one wavelength filter of the filter array corresponds with several allocated image

rendering elements, in such a way that a straight line connecting a first centroid of the cross-section area of a visible portion of the image rendering element and a second centroid of the cross-section area of a visible portion of the wavelength filter represents one propagation direction, so that, from every viewing position, the observer will see predominantly bits of partial information of a first selection of views with the first eye, and predominantly bits of partial information of a second selection of views with the second eye, so that the observer perceives a spatial impression from a multitude of viewing positions.

59. (Previously presented) Autostereoscopic projection arrangement according to Claim 41, in which the projected bits of partial information of the views are projected together with the use of an image pre-rectification function.

60. (Previously presented) The autostereoscopic projection arrangement according to Claim 42 in which

the alignment and structure of the filter array between the projectors and the projection screen are selected in such a way that each image rendering element on the projection screen can receive light from at least one of the projectors, and

the projection screen is curved, so that essentially equal angles of incidence are obtained for the light received from the various projectors.

61. (Previously presented) The autostereoscopic projection arrangement according to Claim 60, in which for each projector, a separate projection position and projection direction is

specified related to the projection screen, preferably with the projection direction and the projection distance differing from projector to projector.

62. (Previously presented) The autostereoscopic projection arrangement according to Claim 41, in which

The brightness of the first projector is variable within specified limits, and  
the first projector is selected from a group consisting of slide projectors, DLP/DMD projectors, CRT projectors and liquid crystal projectors.

63. (Withdrawn) The autostereoscopic projection arrangement according to Claim 41, in which the filter array located nearest to the observer comprises an antireflection coating.

64. (Withdrawn) The autostereoscopic projection arrangement according to Claim 41, in which the filter array comprises an exposed film, a printed pattern or an optical grating.

65. (Withdrawn) The autostereoscopic projection arrangement according to Claim 42, in which at least one of the filter arrays is laminated onto a substrate.

66. (Withdrawn) The autostereoscopic projection arrangement according to Claim 42, in which at least one of the filter arrays is arranged within a sandwich stack of several substrates, each substrate having specified optical properties.

67. (Withdrawn) The autostereoscopic projection arrangement according to Claim 41, in which the projection screen is designed as a very thin wafer by which an excellent definition of the image rendering elements on the projection screen is achieved.

68. (Withdrawn) The autostereoscopic projection arrangement according to Claim 41, in which the projection screen has a light-concentrating effect.

69. (Withdrawn) The autostereoscopic projection arrangement according to Claim 1, in which parts of the filter array are provided with a reflecting surface that is arranged on the side of the filter array facing the projector.

70. (Withdrawn) The autostereoscopic projection arrangement according to Claim 69, in which the reflecting surface is provided on non-transparent filter elements only, so that part of the light projected is reflected back into the projectors.

71. (Withdrawn) The autostereoscopic projection arrangement according to Claim 41, in which at least some of the filter elements of the filter arrays are polarizing filters, and the projector radiates polarized light.

72. (Withdrawn) The autostereoscopic projection arrangement according to Claim 71, in which the polarized light radiated by the first projector alternates in time between horizontally linear and vertically linear polarization.

73. (Withdrawn) The autostereoscopic projection arrangement according to Claim 41, in which at least some of the filter elements of the filter array are photochromic or electrochromic optical elements.

74. (Withdrawn) The autostereoscopic projection arrangement according to Claim 42, in which

the projectors comprise a color filter, such that light radiated by the projectors can only pass wavelength filters of a respective transmission wavelength range, and

the projectors are arranged in at least two substantially horizontal tiers, and further comprising automatic alignment devices for the projectors.

75. (Withdrawn) The autostereoscopic projection arrangement according to Claim 41, in which the path of the light radiated by at least one projector is folded by means of at least one mirror, with the folded light path causing a light incidence on the projection screen that is non-perpendicular relative to the main direction of light propagation, and the projection screen comprises a holographic disk that especially transmits and concentrates light incident other than perpendicularly.

76. (Withdrawn) The autostereoscopic projection arrangement according to Claim 41, in which at least some of the filter elements are designed as neutral density filters for wavelength-independent attenuation of light intensity.

77. (Previously presented) An autostereoscopic projection arrangement, comprising:  
at least one projector arranged for back projection of bits of partial image information from at least two views of a scene or object onto a holographic screen, in which  
the holographic screen has a multitude of holographic optical elements (HOEs) that are arranged in a grid of columns and/or rows, and  
light incident from the projector is optically imaged by an optical imaging system, onto the holographic screen such that the multitude of HOEs define a multitude of propagation directions, so that an observer will see predominantly bits of partial information of a first selection of views with one eye and predominantly bits of partial information of a second selection of views with the other eye, and thus will perceive a spatial impression from a multitude of viewing positions.

78. (Previously presented) The autostereoscopic projection arrangement according to Claim 77, in which

each HOE displays the light incident from the at least one projector by at least one of the following optical imaging types selected from a group consisting of:

- a) imaging by a lens,
- b) imaging by a cylindrical lens arranged vertically or obliquely to the vertical,
- c) diffusely transparent or translucent imaging, with subsequent imaging by a lens,
- d) imaging by a prism,



e) diffusely transparent or translucent imaging, with subsequent imaging by means of a prism,

f) imaging through a polygonal polarizing filter stepped neutral density filter wavelength filter or a combination of the foregoing, with a wavelength filter transmitting light of a specified wavelength or one or several specified wavelength ranges,

g) imaging by an optical flat,

h) imaging by diffraction.

79. (Previously presented) The autostereoscopic projection arrangement according to Claim 78, comprising

eight projectors, each of which renders one view of the scene or object, and arranged on a circular arc, with the imaging beam paths of the projectors being directed onto the rear side of the holographic screen and the optical axes of these imaging beam paths including angles of about  $\alpha \approx 8.6^\circ$ , in which

the HOEs are spaced from each other on the holographic screen by approximately 0.1mm in both coordinates, and

the propagation directions of the light radiated by the holographic screen and carrying bits of partial information of the views include angles of about  $\beta \approx 0.83^\circ$ , in which

the multitude of viewing positions are established at a distance of approximately 4.5m from the holographic screen.

80. (Previously presented) The autostereoscopic projection arrangement according to Claim 78, comprising

four projectors, each of which renders two views of the scene or object, and arranged on a circular arc, with the imaging beam paths of the projectors being directed onto the rear side of the holographic screen and the optical axes of these imaging beam paths including angles of about  $\alpha \approx 17.2^\circ$ , in which

the HOEs are spaced from each other on the holographic screen by approximately 0.1 mm in both coordinates, and

the propagation directions of the light radiated by the holographic screen and carrying bits of partial information of the views include angles of about  $\beta \approx 17.2^\circ$ , in which

the multitude of viewing positions are established at a distance of approximately 4.5 m from the holographic screen.

81. (Previously presented) The autostereoscopic projection arrangement according to Claim 77 further comprising:

at least one projector arranged for the front-side projection of bits of partial image information from at least two views of a scene or object onto a holographic screen, in which

each HOE displays the light incident from at least one projector by at least one of the optical imaging types or combinations of imaging types selected from a group consisting of:

- a) imaging by a concave mirror,
- b) imaging by a convex mirror,

- c) imaging by a cylindrical concave mirror arranged vertically or obliquely to the vertical,
- d) diffuse reflection, with subsequent imaging of a concave or convex mirror, preferably a cylindrical concave mirror arranged vertically or obliquely to the vertical,
- e) imaging by means of a doublet or triplet of corner reflector mirrors,
- f) diffuse reflection, with subsequent imaging by means of a doublet or triplet of mirrors,
- g) imaging through a polygonal polarizing filter, a stepped neutral density filter, a wavelength filter or a combination of the foregoing, with a wavelength filter transmitting light of a specified wavelength or one or several specified wavelength ranges,
- h) diffuse reflection, with subsequent imaging by an optical flat,
- i) diffuse reflection, with subsequent imaging by a prism,
- j) imaging by diffraction.

82. (Previously presented) The autostereoscopic projection arrangement according to Claim 77 in which at least two of the HOEs on the holographic screen deviate from each other in their outer dimensions, their outer shape, or both.

83. (Previously presented) The autostereoscopic projection arrangement according to Claim 77 in which the relative positions of area centroids of at least two of the HOEs on the holographic screen deviate from each other by an offset equal to a non-integral multiple of the width, height of one of the said HOEs, or both.

84. (Previously presented) The autostereoscopic projection arrangement according to Claim 77, in which at least one of the HOEs displays light of different wavelength ranges in pairs of disjoint directions.

85. (Previously presented) Autostereoscopic projection arrangement according to Claim 77, in which the grid in which the HOEs are arranged on the holographic screen is an orthogonal grid.

86. (Previously presented) The autostereoscopic projection arrangement according to Claim 77, in which the grid in which the HOEs are arranged on the holographic screen is a non-orthogonal grid, in which the rows intersect the columns at an angle that is not equal to 90 degrees.

87. (Previously presented) The autostereoscopic projection arrangement according to Claim 77, in which at least one HOE simultaneously defines at least two light propagation directions for light from at least one direction of incidence.

88. (Previously presented) The autostereoscopic projection arrangement according to Claim 77, comprising

at least two projectors, with each projector projecting either bits of partial image information of only one view of a scene or object, or simultaneously bits of partial image information of at least two views of a scene or object,

at least one projector projects bits of partial image information of at least one view of the scene or object at certain points in time only, at a specified frequency between about 10 Hz and about 60 Hz,

the light of at least of one projector is displayed in such a way that it can be seen from the front side within a solid angle that is at least about  $0.3\pi$  sr, so that the light of the said projector is seen by the observer as an essentially two-dimensional image, in which

each of the projectors comprises at least one DMD chip, one LCD component, one CRT or one laser.

89. (Previously presented) The autostereoscopic projection arrangement according to Claim 77, in which there is, in a viewing space, at least one viewing position for an observer's eye into which the holographic screen does not radiate essentially any of light projected by the projectors.

90. (Previously presented) The autostereoscopic projection arrangement according to Claim 77, further comprising a color mask in a beam path between the projector and the projection screen, the color mask directing different color shares, the colors red, green and blue, to different subpixels belonging to a pixel of the projection screen, such that the subpixels, in addition to the pure colors red, green and blue, also render mixed colors, so that a greater number

of colors per subpixel can be rendered and the resolution of the projection screen is thus increased.

91. (Previously presented) The autostereoscopic projection arrangement according to Claim 90, characterized in that the width  $l_{new}$  of the colors that can be rendered per pixel results from

$$l_{new} = l \frac{n}{2n-1}$$

wherein  $l$  is the size of one subpixel and  $n$  the number of subpixels per pixel, or in that the number  $p_{new}$  of views renderable per pixel increases according to the function

$$p_{new} = p \frac{2n-1}{n}$$

wherein  $n$  is the number of subpixels per pixel, and  $p$  the number of different views of the scene or object.

92. (Previously presented) The autostereoscopic projection arrangement according to Claim 90, in which  $n=3$  and  $p=8$ .

93. (Previously presented) A method of manufacturing a holographic screen for use in an autostereoscopic projection arrangement, comprising the steps of:

a) manufacturing a first optical arrangement containing a multitude of the optical components permitting optical imaging types or combinations of imaging types selected from a group consisting of:

- imaging by a concave mirror,
- imaging by a convex mirror,
- imaging by a cylindrical concave mirror arranged vertically or obliquely to the vertical,
- diffuse reflection, with subsequent imaging of a concave or convex mirror, preferably a cylindrical concave mirror arranged vertically or obliquely to the vertical,
- imaging by means of a doublet or triplet of corner reflector mirrors,
- diffuse reflection, with subsequent imaging by means of a doublet or triplet of mirrors,
- imaging through a polygonal polarizing filter, a stepped neutral density filter, a wavelength filter or a combination of the foregoing, with a wavelength filter transmitting light of a specified wavelength or one or several specified wavelength ranges,
- diffuse reflection, with subsequent imaging by an optical flat,
- diffuse reflection, with subsequent imaging by a prism,
- imaging by diffraction,
- imaging by a lens,
- imaging by a cylindrical lens arranged vertically or obliquely to the vertical,
- diffusely transparent or translucent imaging, with subsequent imaging by a lens,
- imaging by a prism,
- diffusely transparent or translucent imaging, with subsequent imaging by means of a prism,

imaging through a polygonal polarizing filter stepped neutral density filter wavelength filter or a combination of the foregoing, with a wavelength filter transmitting light of a specified wavelength or one or several specified wavelength ranges,

imaging by an optical flat,

b) positioning of an undeveloped holographic screen in the vicinity of the first optical arrangement;

c) exposing the holographic screen to one or several coherent light sources, in which the holographic screen is struck by a reference beam coming directly from the light source and an object beam which, also coming from the light source, has passed the first optical arrangement.

d) developing the holographic screen.

94. (Withdrawn) The method according to Claim 93 further comprising the step of repeating step "c" several times.

95. (Withdrawn) The method according to Claim 93 further comprising the steps of repositioning the light source relative to the optical arrangement and repeating step "c".

96. (Withdrawn) The method according to claim 93 further comprising the steps of substituting a second optical arrangement for the first optical arrangement and repeating step "c".



97. (Previously presented) A method of manufacturing a holographic screen for use in an autostereoscopic projection arrangement, comprising the steps of:

a) selecting a multitude of optical components providing the optical imaging types or combinations thereof, selected from a group consisting of:

- imaging by a concave mirror,
- imaging by a convex mirror,
- imaging by a cylindrical concave mirror arranged vertically or obliquely to the vertical,
- diffuse reflection, with subsequent imaging of a concave or convex mirror, preferably a cylindrical concave mirror arranged vertically or obliquely to the vertical,
- imaging by means of a doublet or triplet of corner reflector mirrors,
- diffuse reflection, with subsequent imaging by means of a doublet or triplet of mirrors,
- imaging through a polygonal polarizing filter, a stepped neutral density filter, a wavelength filter or a combination of the foregoing, with a wavelength filter transmitting light of a specified wavelength or one or several specified wavelength ranges,
- diffuse reflection, with subsequent imaging by an optical flat,
- diffuse reflection, with subsequent imaging by a prism,
- imaging by diffraction,
- imaging by a lens,
- imaging by a cylindrical lens arranged vertically or obliquely to the vertical,
- diffusely transparent or translucent imaging, with subsequent imaging by a lens,
- imaging by a prism,

diffusely transparent or translucent imaging, with subsequent imaging by means of a prism,

imaging through a polygonal polarizing filter stepped neutral density filter wavelength filter or a combination of the foregoing, with a wavelength filter transmitting light of a specified wavelength or one or several specified wavelength ranges,

imaging by an optical flat,

- b) arranging the optical components in a grid of rows and/or columns;
- c) computing respective holographic interference patterns for the imaging types or combinations;
- d) exposing the holographic screen to one or several coherent light sources such that the computed holographic interference pattern is written onto the holographic screen;
- e) developing the holographic screen.